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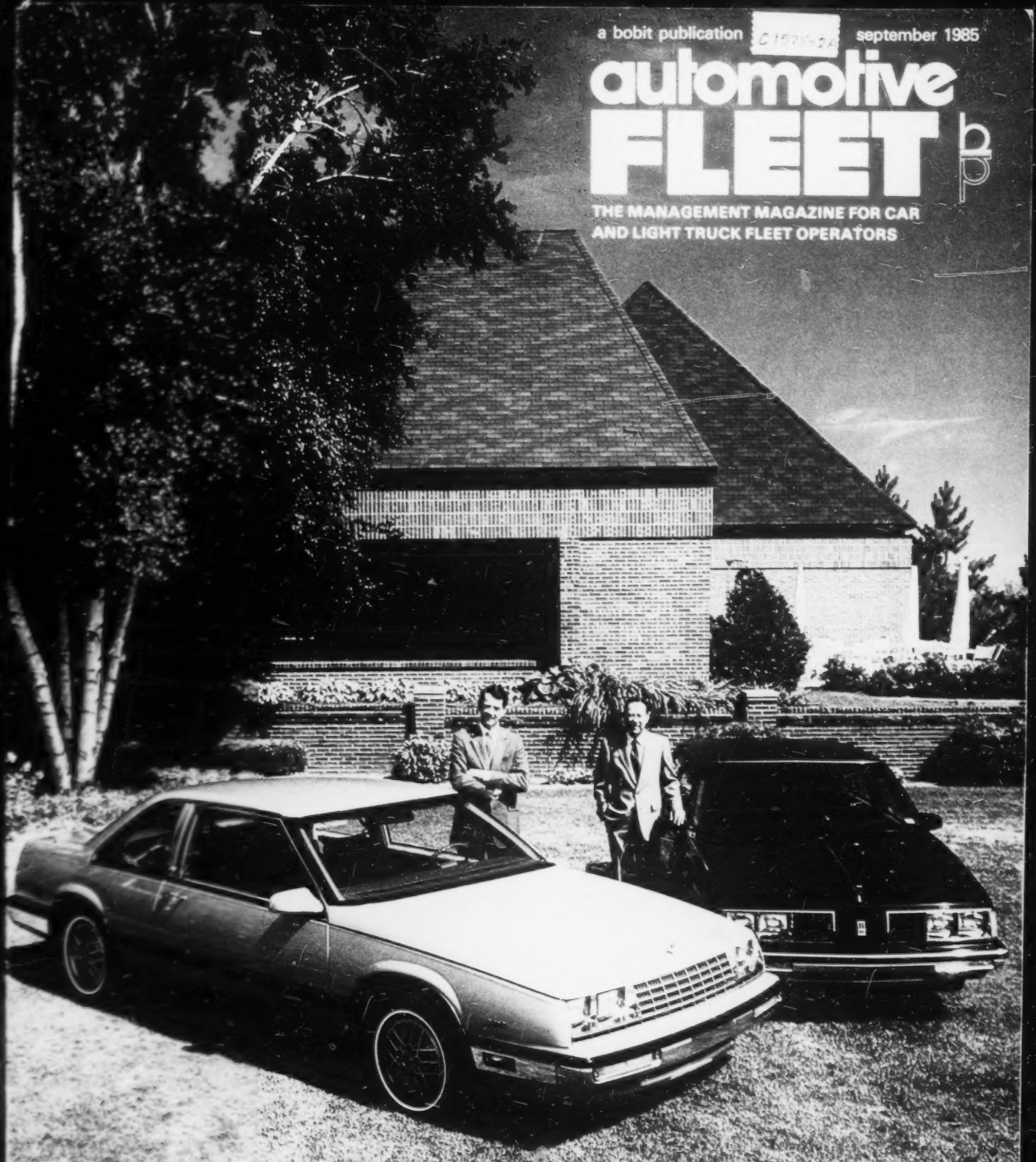
automotive FLEET

THE MANAGEMENT MAGAZINE FOR CAR AND LIGHT TRUCK FLEET OPERATORS



'86 FLEET INCENTIVES
Marketing Used Cars
Light-Truck Roundtable

SEPTEMBER 1985 VOL. 24, NO. 11

automotive FLEET® bp

THE MANAGEMENT MAGAZINE FOR CAR AND LIGHT TRUCK FLEET OPERATORS

Influencing the management of 4,584,000 cars and 1,970,000 light trucks and vans in business, leasing, rental, utility, government, police, and taxi fleets.

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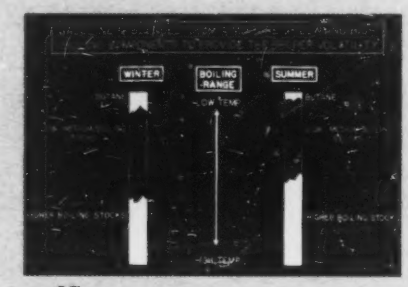

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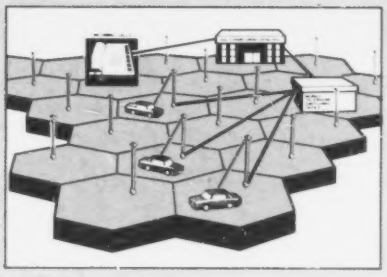

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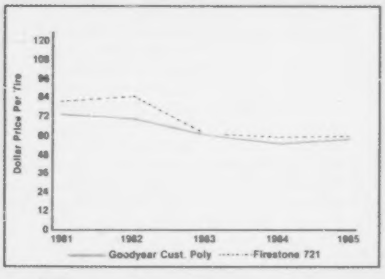

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On our cover: Downsized to the '85 C-body platform and with FWD for the first time, the Buick LeSabre (left) and Olds Delta 88 H-cars are among GM's major changelings for '86. But George Shane (left) and John Wellman — fleet sales heads for Buick and Olds, respectively — are confident one thing won't change: the cars' outstanding appeal to fleets.

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Calendar

SEPTEMBER

9-12 — National Association of Fleet Administrators' Automotive Systems and Maintenance Technologies, Course 80, Adam's Mark, Kansas City, MO.

12-15 — National Association of Fleet Resale Dealers First Annual Conference, Sheraton Park Place Hotel, Minneapolis, MN.

18-19 — National Association of Fleet Administrators' Advanced Fleet Management, Course 90, Radisson Plaza Hotel Charlotte, Charlotte, NC.

18-22 — National Auto Auction Association Annual Convention, Denver Marriott, City Center, Denver, CO.

19-21 — Automotive Fleet & Leasing Association Fall Conference, Pheasant Run, St. Charles, IL.

29-30 — American Automotive Leasing Association Mid-Year Meeting, Westin Hotel O'Hare, Chicago, IL.

OCTOBER

9-13 — International Taxicabs Association Annual Convention and Trade Show, Sheraton Harbor Island, San Diego, CA.

12-16 — International Association of Chiefs of Police Annual Conference, Astro Hall, Houston, TX.

23-26 — American Association of Equipment Lessors' 24th Annual Convention, Disneyland Hotel, Anaheim, CA.

27-Nov. 1 — Wharton Certified Fleet Manager Program, Course One, workshop developed by Wharton School of the University of Pennsylvania and the NAFA Foundation, Philadelphia, PA. For information: (215) 898-4595.

29-31 —NAFA's Basic Principles of Fleet Management, Course 100, Adam's Mark, Philadelphia, PA.

NOVEMBER

11-13 — **Limousine & Chauffeur** Limo Show and Conference, Caesar's Palace, Las Vegas, NV. For information: (213) 376-8788.

18-20 — Leasemark Lease Management Training Course, Embassy Suites Hotel, Wayne, PA. Information: (215) 827-7758.

Gas Prices

UNLEADED

City	Cost Per Gallon Unleaded Full-Serve	Self-Serve
Juneau, AK	164.0	152.4
Kingman, AZ	168.9	128.4
Denver, CO	151.3	124.0
Key West, FL	151.4	130.9
Minneapolis, MN	159.9	132.7
St. Louis, MO	138.1	114.6
Greenville, MS	148.9	128.9
Omaha, NE	148.4	129.9
Cincinnati, OH	146.7	118.2
Columbia, SC	149.0	121.4
Houston, TX	144.9	109.5
Arlington, VA	156.9	126.9
Yakima, WA	169.9	136.0

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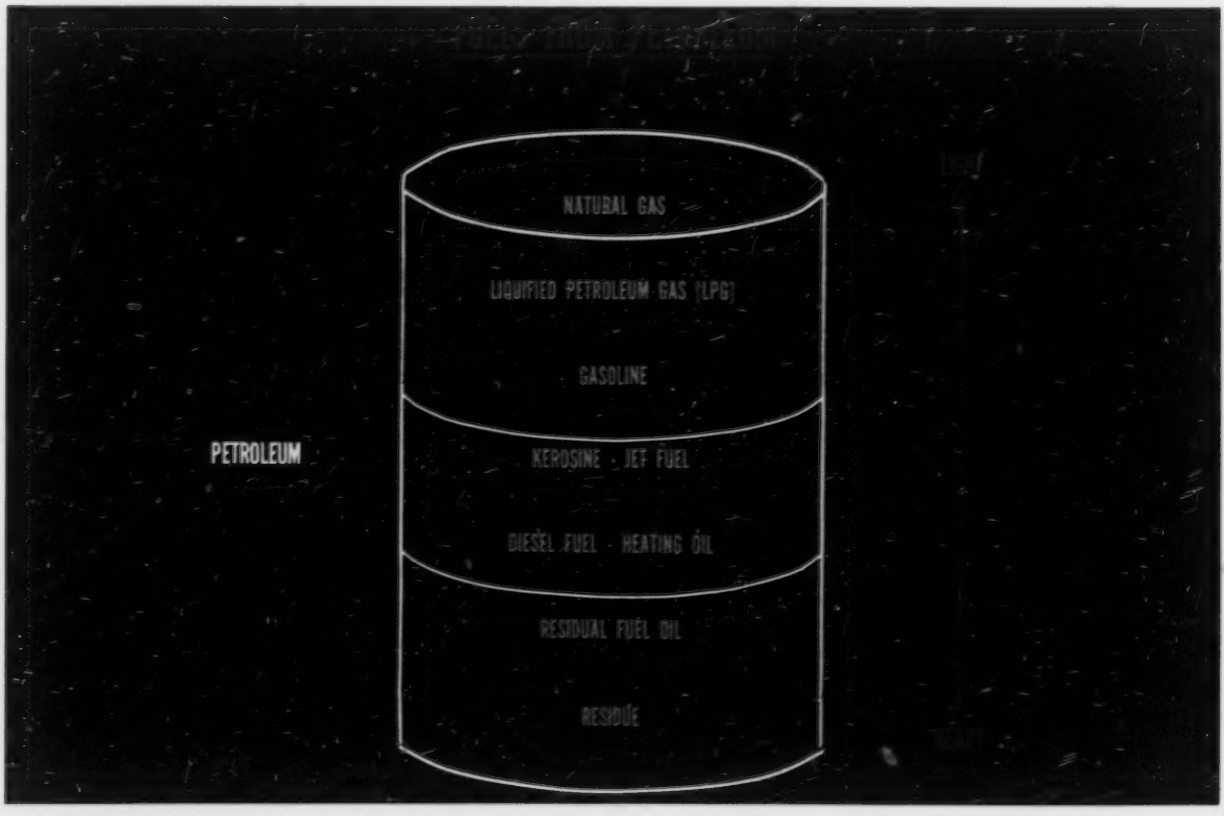
Gasolines For Today and Tomorrow

By Peter Dorn, PhD

Fuel — like every other aspect of the vehicle — is evolving. There are a number of grades of gasoline available today, plus a growing list of blending components and additives. What's more, you can expect to see even greater complexity in the future. As fleet managers, it's important for you to be ready for the fuels of the future in order to ensure maximum fleet performance and economy.

When crude oil arrives at a refinery, one of the first things that happens is the separation of its components by distillation, based on the boiling points of various components. The lighter components come off first and the heaviest components may boil over 700°F. The gasoline fraction, which distills at about 80-400°F, is a complex mixture of hundreds of compounds called hydrocarbons.

By definition, the octane number of a gasoline is a measure of its ability to prevent engine knock. It's typically measured as an average of the "research octane number" and the "motor octane number," and is



"Roughly 38 percent of gasoline sold is leaded regular."

Gasoline Grades

1985	Leaded Regular	Unleaded Regular	Unleaded Premium
Octane, (R+M)/2	88-89	87	91-93
Market Share	38%	47%	15%
Customer Satisfaction	90%	75%	95%

1986

New Lead Phasedown Regulations

represented as (R+M)/2. These numbers, seen on gas pumps, represent two methods used to determine octanes in laboratory engines under different conditions.

Today we have three basic grades of gasoline in the marketplace: one leaded and two unleaded grades. Leaded regular generally has an octane number of 89 on the East Coast and 88 on the West Coast. As far as "satisfaction" goes — this means the number of cars that will be satisfied by being essentially knock-free — it's about 90 percent on the East Coast and 85 percent on the West Coast.

Roughly 38 percent of the gasoline sold today is leaded regular. The Environmental Protection Agency (EPA) claims that about 15 percent of the vehicles which should be using unleaded gasoline are actually misfueling and using leaded.

The most popular grade of gasoline today is unleaded, which began to be required in American cars in 1975. Unleaded currently has a 47 percent market share and about a 75 percent satisfaction rate. Fortunately, if you have problems with this grade you can move up to unleaded premium, where the octane may vary from about 91 to 93. Unleaded premium now has about a 15 percent market share and a satisfaction rate of better than 95 percent. However, the picture is changing because new EPA Lead Phasedown Regulations started to take place as of July 1.

For more than 60 years, lead has been used as an anti-knock compound in this country's gasolines and is the most effective such compound ever found. Ten years ago, we could use up to four grams of lead per gallon. In the mid-seventies, however, the EPA became concerned that lead pollutes the atmosphere and is harmful to the health of children. So the agency established a gradual phasedown. Until this summer, we could put a maximum of 1.1 grams of lead into each gallon of leaded gasoline.

This changed in July, when the allowable amount was further reduced to 0.5 gram. And by next January, we will be down to just 0.1 gram. That tenth of a gram will give little benefit in terms of octane. The EPA is allowing even that amount because older vehicles — those manufactured in '70 and before — were designed to run on leaded gasoline. Lead acts as a kind of lubricant, and some cars need a small amount of lead to protect the valves.

Some oil companies will be able to "bank" the amount of lead that they haven't used during '85, receiving credit for the amount of lead below the maximum limit.

By '88, all the lead credits will have been used up, and we'll again have three grades of gasoline. The first grade will probably be a sub-octane unleaded, with an octane number that could be as low as 85. Then we'll have a middle grade, which may or may not contain some

"...a tenth of a gram of lead is hardly worth the nuisance..."

lead, with an octane number somewhere between 88 and 89 — though a leaded grade with a tenth of a gram of lead is hardly worth the nuisance to produce. Finally, we will still have a super unleaded with an octane range of 90 to 92.

Unleaded is not necessarily cheaper. In unleaded, you use high octane blending components, usually obtained from gasoline by expensive processing. Xylene is one such example obtained by catalytic reforming. But you need to use a considerable volume of xylene to raise the octane to 89, perhaps a quart added to three gallons of gasoline. Isomerization is another example of processing. As more unleaded is being used, the oil industry searches for high octane blending agents.

Controversy Over Getting The Lead Out

According to the Environmental Protection Agency, the health hazards of lead far outweigh lead's benefits in providing valve lubrication and better engine performance. But while the EPA plan to do away with lead in gas will supposedly leave us healthier, many motorists will be stuck with the two major disadvantages of lead free gasoline: engine knock and engine wear.

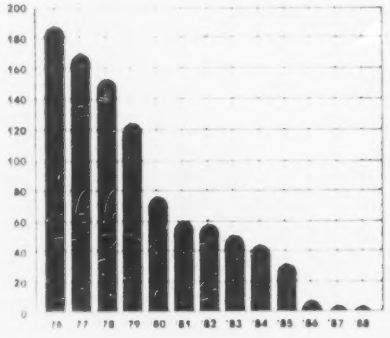
Engine knock occurs when the fuel-air mixture within the cylinder chamber of an auto engine undergoes spontaneous ignition. Using ultra-slow motion, scientists have discovered that when unburned fuel is pushed prematurely past its "ignition threshold" by pressure and heat, the fuel explodes. The sound waves ricochet off the cylinder wall and the hammering of the cylinder, the piston, and other components produces the vibrations the motorist hears. Not only is engine knock annoying, but the repeated vibrations put undue wear and tear on the powerplant. Engine knock also leads to lower fuel mileage and poor engine performance.

Traditionally, lead was added to gasoline because automakers found that lead can prevent the spontaneous ignition of fuel within the cylinder chamber. Lead also serves as a lubricant by coating and protecting engine valves. The use of anti knock leaded gasolines allowed automakers to manufacture better, peppier engines.

But, in 1974, the government forced refiners to reduce the lead content of gasoline in order to avoid damaging the pollution-control devices then being mandated for new cars. The automakers complied with the phase-down of lead by building engines that would run on unleaded gasoline. Cars built after 1970 and light trucks built after 1979 have improved metal alloy valves designed to operate on unleaded gas.

Still, as many as 40 percent of the vehicles on the road today were designed to run on leaded gas.

Lead Added to U.S. Gasoline
(In Thousands of Metric Tons)



Note: 86-88 are projected and exclude adjustments for "banking" lead credits
Source: EPA

With the reduction of lead to just 0.1 gram per gallon of gas by 1986, owners of older cars, trucks, and other vehicles are worried about excessive engine wear. And the possibility of a *complete* ban on lead in gasoline by 1988 has these owners worried even more.

While some studies show that damage occurs when older engines are run on unleaded gas, automakers differ on just how much lead is sufficient to prevent such damage. Ford Motor Co. considers 0.1 gram of lead per gallon enough protection. But Chrysler and General Motors maintain that the minimum amount of lead should be set between 0.2 grams and one gram per gallon.

Critics of lead reduction claim that older cars and trucks will break down prematurely. Their argument is that lab studies show valves in cars designed to use leaded gas wear out 10 to 20 times faster with unleaded gas. The problem is greatest when engines are run continuously at high speeds with revolutions exceeding 3,000 per minute.

Proponents of lead reduction, however, counter that the average vehicle does not reach 3,000 rpms without exceeding the speed limit. EPA analyst Joel Swartz notes that there is usually little added wear on engines that are run below 3,000 rpms. In addition, the U.S. Army and the Postal Service have switched their fleets of older vehicles to unleaded gasoline. None of these fleets have reported significant maintenance problems.

The lead phase-down will have other effects besides the problem of engine wear. The pump-price of regular unleaded gas may increase by three to four cents a gallon due to the new standards. Refiners say it's more expensive to produce lead-free gasoline because they're required to refine more crude, more intensively, in order to maintain the per-gallon octane rating. As a result, some smaller refineries may even be forced to close.

— Catherine G. Bruhn

Circle 114 on Inquiry Card →

"Volatility is important but much less understood..."

Oxygenates have been receiving much attention, and they will assume an important role in the future. Ethanol is probably the one that's most familiar. During the oil shortage, there was much attention to ethanol because it was a fuel extender made from renewable grain sources. Today it's used mostly in the Midwest, close to the grain supply. Ethanol really is more expensive than gasoline, though, and there's a limited quantity.

Another popular oxygenate is methyl tertiary butyl ether, or MTBE. It is made from methanol, which is wood alcohol, but is not an alcohol; it's an ether more closely resembling gasoline. Methanol will probably gain in popularity, especially as we enter an octane crunch. Today it can be made from natural gas, but eventually it may be made from coal. A fourth type of oxygenate which we may see in use today is tertiary butyl alcohol (TBA).

With ethanol and methanol you get almost a 3.5 number octane gain, which is pretty good; with MTBE, a 2.9 number gain in octane. Compare this to xylene, with a 2.0 number octane gain.

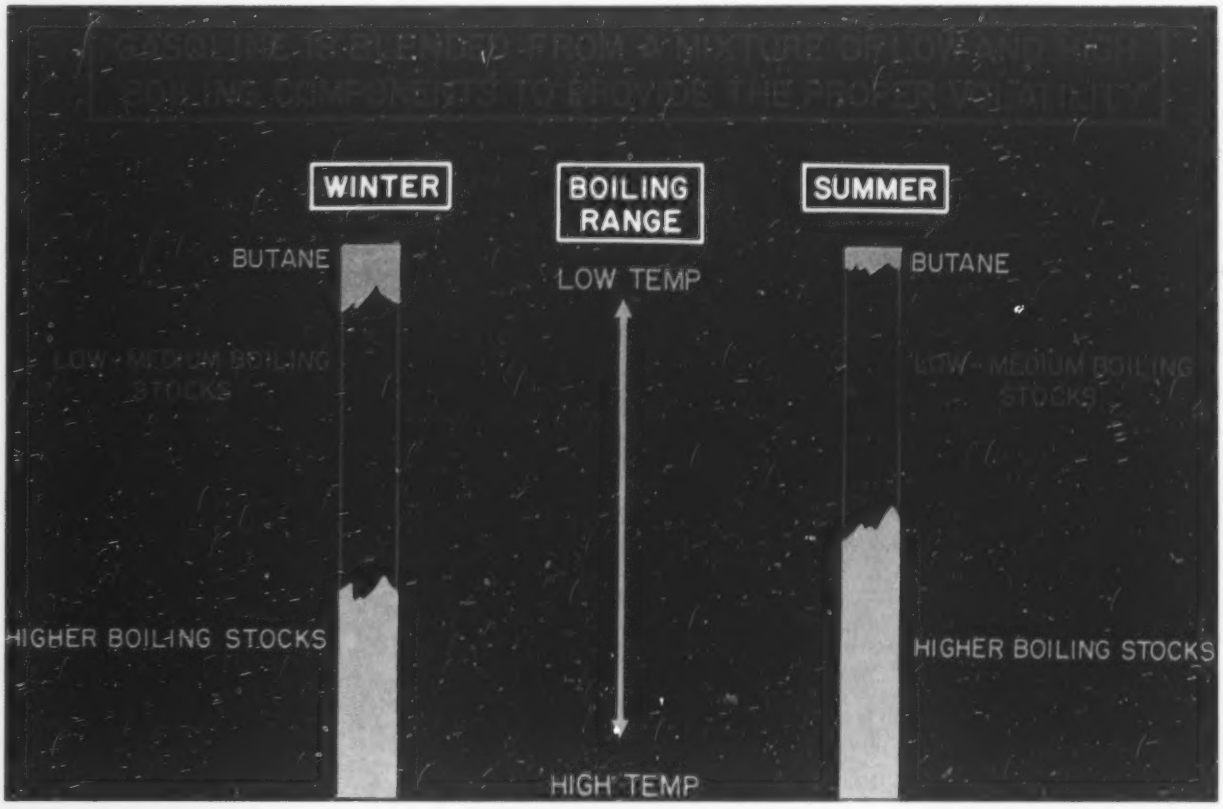
Under the Clean Air Act, the EPA will approve the use of certain oxygenates under what is called a "waiver," but companies must have a lot of data proving that emissions will not be increased. Thus, the EPA allows the use of some oxygenates including ethanol, MTBE, a combination of methanol and TBA, and TBA by itself.

Volatility is another important aspect of octane quality, but is much less understood and a lot more subtle than octane. Volatility is the measure of gasoline's tendency to change from a liquid to a vapor. The lower the boiling range temperature of a gasoline, the more volatile it is.

For a winter climate and with cold temperatures *and* a cold engine, gasoline should be volatile enough so that it vaporizes in the combustion chamber. To ensure that, the gas is blended with more low and medium temperature boiling stocks and less of the higher temperature boiling stocks. For warmer summer temperatures, gasoline is blended with more of the higher boiling stocks and less of the lower boiling ones. But you have to be careful, because if the gasoline is too volatile in the summer, you could wind up with vapor lock, with gasoline vapors in the carburetor or fuel lines, causing a loss of power and eventual stalling. Thus, volatility is a delicate balance between the proper ratio of high and low boiling stocks Most refiners change their blending components on a monthly or semimonthly basis, depending on the geographic area and the month of the year.

There is no question that alcohols are excellent for octane — ethanol and methanol are especially useful for increasing octane. But these octanes can also increase the volatility of the gasoline. If the gasoline is carefully blended, though, there shouldn't be any problem.

Gasoline emissions are another matter. Since alcohol can make



gasoline more volatile, vapors can evaporate more readily from the fuel lines, the carburetor, and the gas tank when a hot engine is turned off. Most newer cars have charcoal canisters to absorb these vapors. But the EPA is still concerned because of the resultant atmospheric pollution.

Alcohol has a lower BTU content (energy content) than gasoline, so it may decrease fuel economy — perhaps by as much as three percent. And, since methanol and alcohol cause the engine to operate cooler, it could affect driveability. Overall, most of the problems tend to be worse with methanol than with alcohol. But even with some of the problems associated with alcohol use, methanol is, in my opinion, the fuel of the future. It now can be blended into gasoline with cosolvent alcohols and eventually it could be used as a neat fuel, in specially designed cars when our gasoline supply is exhausted.

Additives are another important aspect of gasoline quality. These most often used additives are:

- Dyes. They identify gasoline and prevent misuse.
- Metal Deactivators. Certain metals in trace amounts in gasoline, accelerate gum formation. Metal deactivators are added to tie-up the metal and render it harmless.
- Antioxidants. Gasolines, when stored in the presence of air, will oxidize and form gums. Antioxidants prevent this and enable us to store gasolines for well over a year.
- Corrosion Inhibitors. In the presence of water, carburetor metal and terne plate (which is used in gas tanks) can corrode. Small amounts of corrosion inhibitors protect these and other metal surfaces.
- Carburetor Detergents. Deposits can form in the throttle body area and these can effect proper operation during idle. Rough idling can result and emissions may increase. Detergents can minimize deposit build-up.

There are also additives that can control deposit formation in other engine parts, such as in the combustion chamber and on intake valves.

In summary, octane and volatility are the two most important gasoline characteristics that relate to performance.

The addition of certain alcohols, as octane blending agents, can affect these properties. In the future, we can expect to see greater use of methanol as a blending agent due to the virtual elimination of lead.

Additives also enhance the quality of gasoline. Some, such as antioxidants, are essential; others, such as carburetor detergents, are more subtle in their effect but should be present in all good quality gasolines.

This article is adapted from a seminar presented by Peter Dorn at June's NAFA convention in Boston. Holder of a doctorate in organic chemistry from the University of Kansas, Dorn is a technologist in the fuel development section at the Texaco Research Center in Beacon, NY. AF

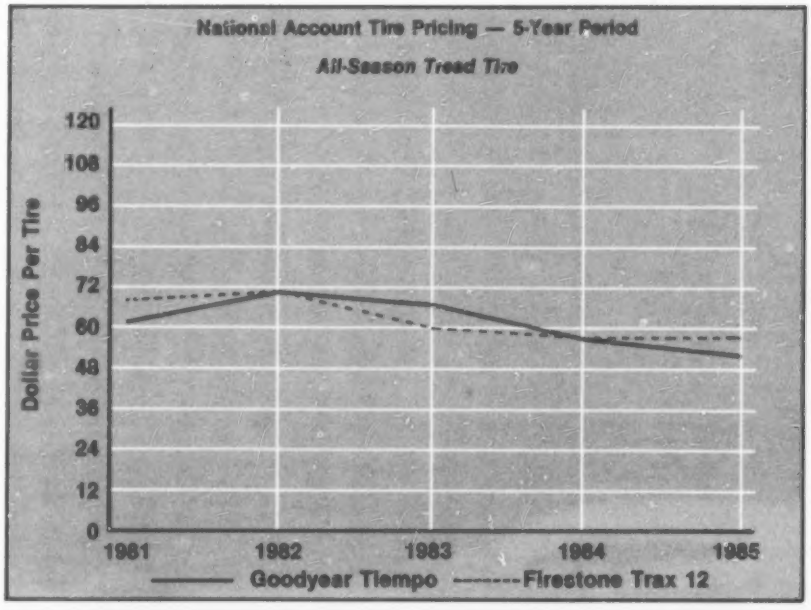
Why Tire Costs Continue To Decline

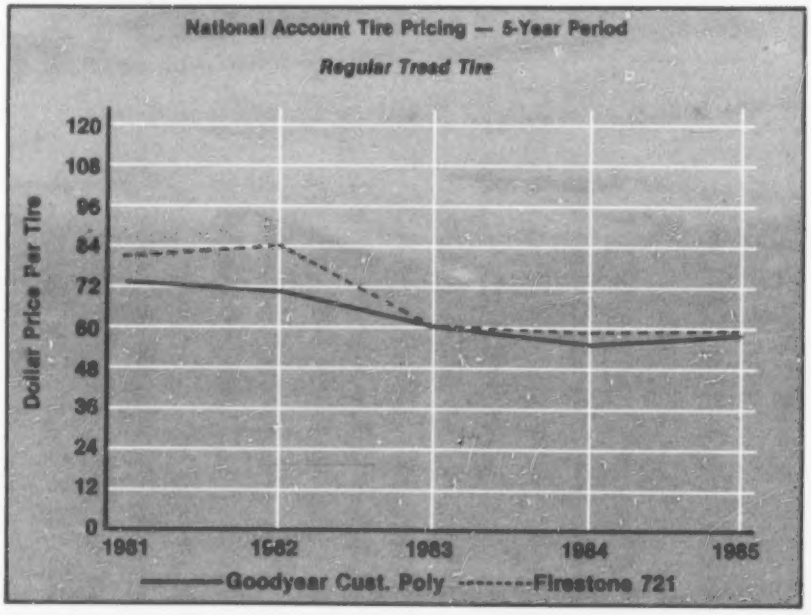
Over the last decade and a half, few aspects of the vehicle have been improved more radically than tires. Technological advances in areas such as compounds, construction, and tread design have resulted in better traction, improved fuel economy, and longer life. Today's tires are built to last up to 40,000 miles — over just about every kind of road condition imaginable.

For fleet managers, these improvements have presented a significant opportunity to reduce costs. Of course, such reductions also depend on the elimination of the leading causes of tire abuse. (Those include improper alignment, which can usually be corrected with a series of adjustments to steering and suspension components; imbalance, often the result of running into curbs and speeding over bumps; incorrect tire pressure; vehicle overloading; and just plain old poor driving habits.)

To help managers dissect trends and anticipate future developments in the tire field, Gelco Fleet and Management Services Co. recently provided *Automotive Fleet* with in-house information based on records from more than 170 of its fleet-accounts. The material from Gelco — a leading vehicle lessor with some 270,000 cars and trucks on lease — ranges from a tire cost-per-mile analysis to national account pricing trends for several major tire brands.

"Managing tire expense in the '80s should continue to be rewarding," says Loren Rodvold, vice president of service operations for the Minnesota-based lessor. "It's definitely the one area of vehicle expense that probably is most immune





" '...a continuation of more dramatic price decreases...' "

to increases each year. In fact, tire expense can reasonably be expected to stay level or even decrease.

"Gelco accumulates data on nearly 75,000 vehicles in our maintenance management program, and consequently purchases over 100,000 tires a year for our clients," Rodvold continues. "Based on this volume of purchasing, we can see some definite trends in terms of pricing, tire life, and resulting expense in terms of cost per mile."

According to the Gelco figures, national account tire pricing shows a modest decline over the past two years. This downward trend seems to be a continuation of more dramatic price decreases that were seen beginning in 1982 (and, for some brands, in previous years).

Looking at prices for an all-season Goodyear Tiempo, for example, we note that the tire jumped from a cost of $61.43 in 1981 to $70.49 in 1982. Then, however, it began a decline to $66.97 in 1983, $56.50 in 1984, and $52.20 in 1985. Movement was somewhat similar with the Firestone Trax 12 brand. That all-season tire cost $68.09 in 1981 and $70.83 in 1982, then fell to $60.27 in 1983 and $57.26 in 1984 before rising slightly in 1985 to $57.72.

The story has been much the same with regular-tread tires. Goodyear's Custom Polysteel, for instance, peaked for the five-year period at $73.36 in 1981. Then it fell to $70.49 in 1982, $60.27 in 1983, and $54.95 in 1984, before rising slightly to $57.73 in 1985. Meanwhile, Firestone's regular-tread 721 cost $81.11 in 1981 and $84.36 in 1982. Then came a decline to $60.49 in 1983 and $58.50 in 1984 before a small rise to $59.39 this year.

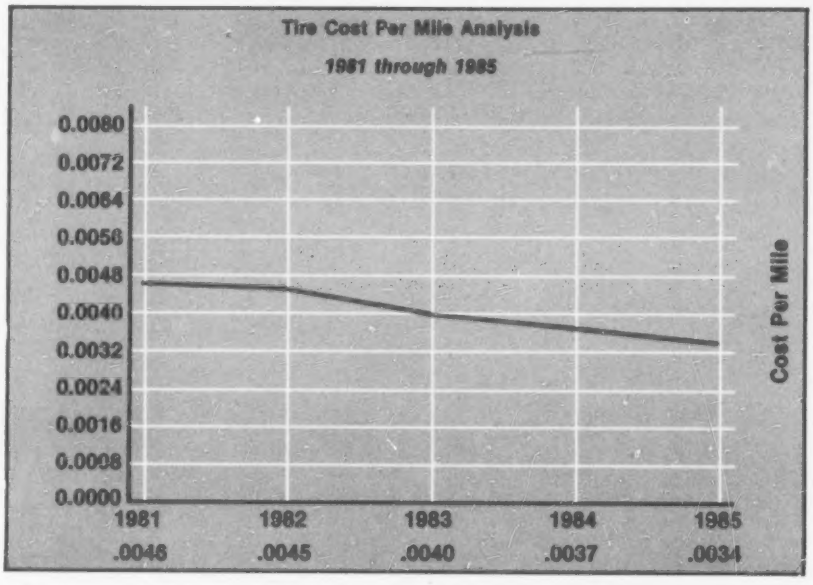
"According to the major tire manufacturers, tire costs will probably continue to be stable," Rodvold comments. "While one factor in tire pricing is the relative competitiveness of the marketplace, including some fairly visible Japanese tire makers, unit pricing is also a function of better and better technology. This constant process of refining the manufacturing of tires results in lower production costs and longer-wearing tires.

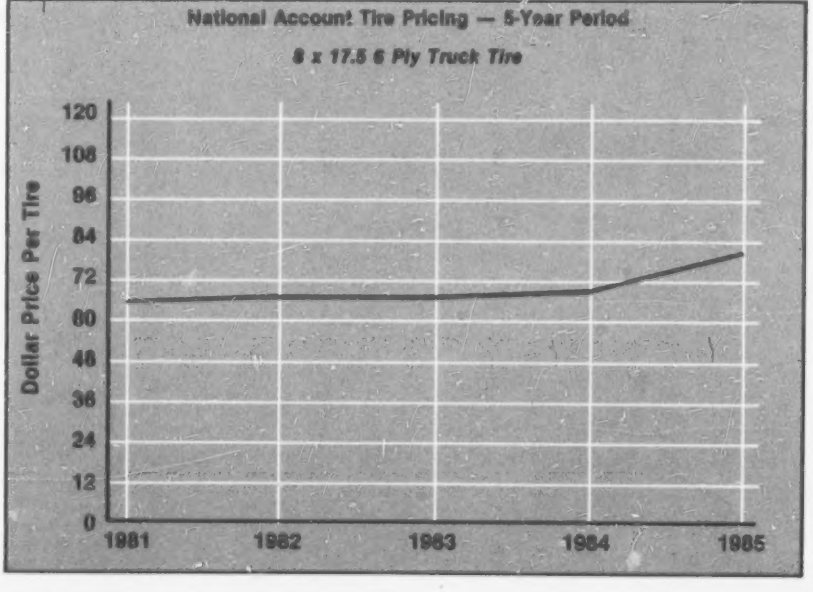
"For the consumer — including fleets — this has contributed to lower costs per mile."

Using Gelco's statistics, tire costs per mile have indeed declined significantly over the past five years. In 1981, the cents-per-mile figure was .46 cents; that fell slightly to .45 cents in 1982, and even more substantially to .40 cents in 1983. The 1984 figure was .37 cents and, in 1985, just .34 cents-per-mile.

What are the reasons for that welcome trend?

"In addition to lower unit prices on tires, other well known factors contribute to minimizing tire cost per mile," Rodvold explains. "The move to more front-wheel-drive vehicles has been significant, and, for the most part, only two (replacement) tires will be purchased over the vehicle life as opposed to four





Though the overall truck-tire market is relatively still, there's a lot of movement in certain segments. And according to Lori Wiese, managing editor of *Modern Tire Dealer*, one of those healthy segments is light-truck tires. Reports Ms. Wiese:

The light-truck tire market is up for a number of reasons. In fact, David Erickson, product manager of marketing for passenger and light-truck tires at GenCorp., terms it the fastest growing segment of the truck-tire market. And according to Erickson, one reason is that light trucks are becoming more "socially acceptable."

Indeed, the customers of light-truck tires can be placed into three categories, says Hal Worsham, Dunlop Tire and Rubber product manager for passenger, light-truck, and medium-truck tires. Customers are the commercial consumer who uses a light truck or van for work, the rugged back-country woodsman who is interested in recreational use of the vehicles, and the affluent suburbanite, or Yuppie, who since the demise of the station wagon has turned to the more fashionable Blazer-type vehicle or the minivan as a prestige item as well as for a useful vehicle for light hauling.

Estimated Brand Shares of the Light-Truck Tire Replacement Market

(Up to and including 8.25-20)

	1981	1982	1983	1984	1985
Goodyear	14%	14%	14%	14%	14%
Firestone	10%	10%	12%	12%	12%
Kelly-Springfield	10%	10%	10%	10%	11%
BF Goodrich	6%	5%	6%	8%	9%
Armstrong	6%	6%	7%	7%	7.5%
Michelin	3%	6%	6%	6%	6%
Sears	8%	7%	6%	6%	6%
Cooper	6%	6%	6%	4%	4.2%
Dunlop	4%	4%	5%	4%	5%
General	7%	7%	7%	4%	4%
Lee	4%	4%	4%	4%	4%
Uniroyal	5%	5%	4%	4%	4%
Multi-Mile/Cordovan	3%	3%	3%	3%	3%
Dayton	2%	2%	2%	2%	2%
Montgomery Ward	2%	2%	2%	2%	2%
Bridgestone	2%	2%	2%	1%	1.5%
Others	8%	7%	4%	9%	4.8%

Source: *Modern Tire Dealer*

It seems the Yuppie generation is having an effect not only on performance tire sales, but on light-truck tire sales as well. "At one time, light trucks had an image of being a farmer's vehicle," says Joe Glavitsch, product manager for light-truck tires with the BFGoodrich Tire Group. "That perception was never true, and it's not true now."

Glavitsch recounts the results of a government study that found that from 63 to 65 percent of all light trucks purchased went for personal use. A look at light-truck advertisements in major consumer magazines finds the vehicles equipped with such luxury items as air conditioning, stereos, and fancy paint jobs. To go with all that are raised white letters on the "upgraded" light-truck tires. "It's a function of the vehicle's styling," notes Worsham. "Tires add to the total good looks."

"By far, most light trucks come OE with passenger tires," says Harry Wylie, manager of product planning for Uniroyal Tire. "But that tide is changing."

Tom Selden, merchandising and marketing manager of light-truck tires for Firestone Tire and Rubber, echoes that fact, placing the percentage of light trucks equipped with OE passenger tires between two-thirds and three-quarters. But he adds that at replacement time people are stepping up to light-truck tires to get more aggressive treads, more flotation ability, and more load-handling capability.

People turn to light-truck tires as an upscale option, Worsham adds, and equip their cars with tires able to handle off-road conditions. "There is an increased number of buyers who are looking for a 'fun' vehicle," says Kevin Gilhuly, product manager for passenger and truck tires for Armstrong Tire and Rubber.

The light-truck market is the least "radialized" of all segments, according to Alex Jankowsky, corporate sales manager of Michelin Tire. In fact, *Modern Tire Dealer* statistics show 30 percent radials at the replacement end of the light-truck tire segment. According to Selden, this year the percentage of radials will edge up closer to 35 percent, with an increase of five points a year, reaching more than 50 percent in five years.

Some companies are working on the problem of the cost jump from bias to radials. Uniroyal, for example, is introducing a tire for commercial applications called the Steelmaster. "The idea was to move the commercial user to radial tires without a price jump to a premium tire, while still offering radial advantages such as long tread life and penetration resistance," says Wylie.

" 'The move to front-wheel-drive has been significant...' "

on a rear-wheel-drive vehicle.

"Improved traction and driveability in front-wheel-drive vehicles has greatly diminished the need for snow tires, except for the most severe snow areas," Rodvold goes on. "This improved driveability is also a function of the number of vehicles that now have all-season tires as original equipment."

One tire that seems to be bucking the downward price spiral is the conventional belted brand utilized on many of Gelco's vans and light trucks. In 1981, the national account price for that tire was $64.65. Since then the price has increased rather than declined, however, costing $66.55 in 1982, $66.70 in 1983, $68.52 in 1984, and $80.07 this year.

That increase has come mainly because domestic manufacturers have been forced to position their prices more closely with the foreign makers than they had in the past, Rodvold says. Consequently, they've raised prices for the conventional belteds and decreased prices for the radial steels in order to encourage the sale of radials on light trucks.

It's crucial to recognize that tire expense is no different than regular maintenance expense in that *both* expense categories require preventive care, Gelco stresses. "Our operating guidelines for maintenance clients are based on preventive maintenance accounting for 25 percent of our total repair costs," Rodvold discloses. "If we are able to sustain this minimum level of preventive maintenance definition, we are then minimizing major component failure — the most expensive type of repair.

"The same principle applies to tires. For instance, if a driver does adhere to a preventive maintenance schedule, our mechanical people in the maintenance control center get an additional opportunity to have the tires, shocks, and alignment checked, at least by visual inspection. Not the least of that inspection is checking inflation, a fundamental aspect of premature tire wear."

"Practically speaking, preventing premature tire wear is a function of the number of times a given vehicle is captured for service work," Rodvold concludes. "If a driver simply follows the 7,500-mile schedule as outlined in the owner's manual for most new vehicles, that schedule translates to a service stop 1.2 times for each 10,000 miles driven. Over the life of an average fleet vehicle, then, our maintenance people get between six and seven opportunities to check for premature tire wear.

"That means we can then prevent many costly replacements."

And that, in turn, can help assure that tire costs overall continue to decline. AF

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Used Cars

The following are average car prices for the period ending August 7, 1985. Prices are based on wholesale activity at major dealer auctions across the country. They are divided into three zones as indicated on the accompanying map. These averages are calculated electronically on IBM machines. They are based on clean cars only. Proper allowance should be made for upgrading sharp cars and proper deduction taken for fair cars. Automatic transmissions have been included in the averages of all models. This information is published in *Automotive Fleet* by special permission of Automotive Market Report.

Model	AVERAGE AUCTION PRICE Zone 1	Zone 2	Zone 3
83 AMC ALLIANCE			
Sdn 4DR L Series	4719	4767	4673
83 AMC CONCORD			
Sdn	3924	3960	3885
Sta Wgn	4142	4186	4100
83 BUICK SKYLARK			
Sdn Custom	4465	4511	4423
82 BUICK SKYLARK			
Sdn	3658	3694	3622
83 BUICK REGAL			
Sdn	5819	5879	5761
Cpe	5982	6040	5923
82 BUICK REGAL			
Turbo Cpe	5348	5401	5292
Cpe	5179	5231	5126
83 BUICK CENTURY			
Sdn Custom	5748	5804	5688
82 BUICK CENTURY			
Sdn Custom	4877	4924	4828
83 CADILLAC			
Cpe DeVille	10035	10136	9936
Sdn DeVille	9977	10078	9976
82 CADILLAC			
Cpe DeVille	8262	8340	8175
Sdn DeVille	8208	8290	8128
83 CHEVY			
Chvt Htchbk 4 Dr	2734	2763	2710
Camaro Cpe 8	6445	6508	6381
82 CHEVY			
Chvt Htchbk 4 Dr	2167	2188	2145
Camaro Cpe 8	5570	5623	5512
83 CHEVY CELEBRITY			
Sdn	5370	5421	5312
82 CHEVY CELEBRITY			
Sdn	4508	4550	4462
83 CHEVY CAVALIER			
Sdn	4516	4562	4469
82 CHEVY CAVALIER			
Sdn	3266	3298	3233
83 CHEVY CITATION			
Cpe 6	3599	3635	3561
82 CHEVY CITATION			
Cpe 6	2787	2816	2756
83 CHEVY MALIBU			
Clas Sdn	5291	5344	5239
Clas Sta Wgn	5508	5562	5451
82 CHEVY MALIBU			
Clas Sdn	4424	4468	4380
Clas Sta Wag	4618	4662	4570
83 CHEVY MONTE CARLO			
Cpe	6002	6061	5942
82 CHEVY MONTE CARLO			
Cpe	5036	5087	4984
83 CHEVY IMPALA			
Sdn	5602	5659	5548
82 CHEVY IMPALA			
Sdn	4512	4559	4470
Wgn 9	4689	4737	4641
83 CHEVY CAPRICE			
Sdn	6274	6334	6210
Sta Wag	6489	6553	6422

Model	AVERAGE AUCTION PRICE Zone 1	Zone 2	Zone 3
83 CHRYSLER			
E-Class Sdn	5432	5487	5380
82 CHRYSLER			
New Yorker Sdn	6657	6724	6590
83 DODGE OMNI			
4 Dr Cust	3448	3482	3415
82 DODGE OMNI			
4 Dr Cust	2622	2648	2595
83 DODGE ARIES			
Cpe	4050	4093	4012
82 DODGE ARIES			
Sdn	3110	3140	3078
83 DODGE DIPLOMAT			
Sln Sdn	4605	4649	4559
82 DODGE DIPLOMAT			
Sln Sdn	3723	3762	3687
83 FORD FAIRMONT			
Futura 6-Cyl Sdn 4 Dr	3912	3949	3871
82 FORD FAIRMONT			
Futura Sdn 4 Dr	2507	2530	2482
83 FORD MUSTANG			
L Cpe 4	4343	4386	4299
82 FORD MUSTANG			
L Cpe 4	3503	3541	3469
83 FORD LTD			
Sdn	4695	4742	4647
82 FORD LTD			
Sdn	4682	4731	4634
83 FORD ESCORT			
Htchbk 4 Dr	3362	3416	3348
83 FORD CROWN VIC			
Sdn	7054	7126	6982
82 FORD CROWN VIC			
Sdn	5543	5601	5488
83 FORD THUNDERBIRD			
Cpe	6376	6441	6313
82 FORD THUNDERBIRD			
Cpe	5028	5075	4977
83 LINCOLN CONTINENTAL			
Sdn	12127	12248	12006
Mark VI Cpe	12253	12374	12130
82 LINCOLN CONTINENTAL			
Sdn	9983	10082	9882
Mark VI Cpe	10186	10288	10087
83 MERCURY COUGAR			
Cpe	6491	6554	6428
82 MERCURY COUGAR			
GS Cpe	3736	3772	3696
83 MERCURY LYNX			
HtchBk 2 Dr	3331	3366	3299
83 MERCURY MARQUIS			
Sdn	4752	4801	4707
82 MERCURY MARQUIS			
Sdn	4928	4977	4876
Wgn 2S	5081	5131	5028
83 OLDS CIERA LS			
Cpe	5665	5722	5609
Sdn	5740	5797	5681

Model	AVERAGE AUCTION PRICE Zone 1	Zone 2	Zone 3
83 OLDS CUTLASS SUPREME			
Cpe	6286	6350	6223
Sdn	6111	6175	6053
82 OLDS CUTLASS SUPREME			
Sdn	7321	7396	7247
Cpe	7516	7590	7439
83 OLDS DELTA 88			
Sdn	6313	6376	6254
82 OLDS DELTA 88			
Sdn	4856	4904	4809
83 OLDS DELTA 98			
Sdn	6709	6795	8621
82 OLDS DELTA 98			
Sdn	7176	7252	7105
83 OLDS OMEGA			
Sdn	4465	4511	4423
82 OLDS OMEGA			
Sdn	3658	3694	3622
83 OLDS FIRENZA			
Sdn	4754	4802	4705
82 OLDS FIRENZA			
Sdn	3924	3964	3882
83 PLYMOUTH HORIZON			
4 Dr Htchbk	3355	3388	3320
83 PLYMOUTH RELIANT			
Cpe	4062	4103	4021
82 PLYMOUTH RELIANT			
Cpe	3100	3131	3067
83 PONTIAC FIREBIRD			
Cpe 8	6512	6578	6448
83 PONTIAC 6000			
Cpe	5495	5551	5440
Sdn	5572	5624	5513
82 PONTIAC 6000			
Cpe	4645	4691	4601
83 PONTIAC GRAND PRIX			
Cpe	6194	6255	6130
83 VOLKSWAGEN JETTA			
4 Dr Sdn	5196	5274	5143
82 VOLKSWAGEN JETTA			
4 Dr Sdn	4408	4452	4363
83 VOLKSWAGEN L SERIES			
2 Dr Htchbk	3996	4035	3956
82 VOLKSWAGEN RABBIT			
2 Dr Htchbk	2359	2384	2337
83 DATSUN			
Sentra 2 Dr Std Sdn	3523	3558	3448
Stanza Hbk 4 Dr Dlx	4801	4849	4753
82 DATSUN			
210 Std 2 Dr	2582	2608	2556
Stanza Hbk 4 Dr Dlx	2924	2954	2895
83 TOYOTA			
Corolla Sedan 2 Dr	4351	4394	4307
Celica St	6259	6321	6196
Camry Sedan	7072	7143	7001
82 TOYOTA			
Corolla 2 Dr Sdn	3554	3589	3519
Celica St Cpe	5083	5134	5032